



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/617,172

07/11/2003

Kwang-Kyu Kim

1293.1908

2995

21171 7590 12/20/2006
STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

CHEN, TIANJIE

ART UNIT

PAPER NUMBER

2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

12/20/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/617,172	Applicant(s) KIM ET AL.	
	Examiner Tianjie Chen	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-7,9,10 and 14-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-7,9,10,14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Final Rejection (RCE)

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 4, 5, 7, 9, 10, 14, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Masayuki (JP 10-162464A).

Claim 1, Masayuki shows a disk clamp in Fig. 4 of a hard disk drive to affix a magnetic disk that stores data to a spindle motor of the hard disk drive (Fig. 1), the disk clamp including: a pressing portion formed along an outer circumference of the disk clamp at an edge portion, to press an upper surface of the disk in a vertical direction; a stress distribution portion formed inside the pressing portion and having a profile with a curved shape bulged upward to distribute stress applied to the disk; and a plurality of screw coupling holes 56 (Fig. 3) into which screws 52 are inserted (Fig. 4) to be coupled to an upper end portion of the spindle motor and provided at intervals of a predetermined distance along a uniform circumference with radius R1 (Fig. 3) inside the stress distribution portion, wherein the press portion has a profile having a curved shape bulged downward, and a radius of the curved shape of the stress distribution portion is greater than or equal to a radius of the curved shape of the press portion (Fig. 4).

Claim 4, Masayuki further shows in Fig. 5 that the pressing portion is continuously formed at the stress distribution portion.

Claim 5, Masayuki further shows in Fig. 6 that the disk clamp has a same thickness throughout an entire portion of the disk clamp.

Claim 7, Masayuki further shows that the disk clamp is made of stainless steel (Column 5, lines 58-61), which is a metal material having a predetermined elasticity.

A "product by process" claim is directed to the product per se, no matter how actually made, see *In re Hirao*, 190 USPQ 15 at 17 (footnote 3 CCPC, 5/27/76); *In re Brown*, 173 USPQ 685 (CCPA 5/18/72); *In re Luck*, 177 USPQ 523 (CCPA, 4/26/73); *In re Fessmann*, 180 USPQ 324 (CCPA, 1/10/74); *In re Thorpe*, 227 USPQ 964 (CAFC, 11/21/85). The patentability of the final product in a "product by process" claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Applicant's claim 7 is a product claim, the limitation "manufactured by press processing" is a process related limitation, which gains no weight in determining patentability.

Claim 9, as described above, Masayuki further shows a disk clamp of a hard disk drive as described above, the disk clamp including: a substantially wave-shaped edge portion to press an upper surface of a disk in a vertical direction and distribute stress applied to the disk; and an inner portion having a plurality of apertures arranged along a uniform circumference at predetermined intervals, the circumference being inside the substantially wave-shaped edge portion, wherein an outer portion of the substantially wave-shaped edge portion is a pressing portion with a profile having a substantially curved shape with at least one bulge downward, an inner portion of the substantially wave-shaped edge portion is a stress distribution portion with a profile having a substantially curved shape with at least one bulge upward, and a radius of

Art Unit: 2627

the substantially curved shape of the stress distribution portion is greater than or equal to a radius of the substantially curved shape of the pressing portion.

Claim 10, as described above, Masayuki further shows that the inner portion of the disk clamp is coupled by screws via the apertures to an upper end portion of a spindle motor of the hard disk drive.

Claim 14, as described above, Masayuki further shows that the pressing portion is continuously formed at the stress distribution portion.

Claim 15, as described above, Masayuki further shows that the disk clamp has a same thickness throughout an entire portion of the disk clamp.

Claim 17, as described above, Masayuki further shows that the disk clamp is made a metal material having a predetermined elasticity, and the limitation "manufacture by press processing" gains no weight in determining patentability.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masayuki in view of Crosshatch et al (US 5,528,434).

Claims 6 and 16, Masayuki does not show the situation as the clamp is released from the spindle. Bronshvatch et al shows a clamp as it is released from the

Art Unit: 2627

spindle in Fig. 6, which has a dome shape with a center portion bulged upward as a whole and, when the disk clamp is coupled to the spindle motor by the screws, the disk clamp is flattened as a whole (Fig. 7b, column 5, lines 44-49 and column 6, line 60-66). It is obvious at the time to one of ordinary skill in the art to expect that Masayuki's clamp also has such a dome shape bulge. The rationale is as follows: Bronshvatch et al teaches that the dome is necessary for clamping the disk and distributing the stress (Column 5, lines 44-49; and column 6, line 60 to column 7, line 4). One of ordinary skill in the art would have been motivated to expect the same structure in Masayuki's clamp for clamping the disc and distributing stress.

Response to Arguments

3. Applicant's arguments filed 07/31/2006 have been fully considered but they are not persuasive.

Applicant recites "a plurality of screw coupling holes" in claim 1. Prior art shows a plurality of screw coupling holes 56. It is not necessary to include holes 54 by definition. Furthermore, prior art shows in Fig. 4, only the holes 56 are used for coupling, not 54+56.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tania Chen whose telephone number is 571-272-7570. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


TIANJIE CHEN
PRIMARY EXAMINER